Remarks

This U.S. patent application no. no. 10/585, 039 is derived from International PCT patent application no. PCT/NO2004/000404 (WO 2005/064850); the U.S. patent application is subject to preliminary claim amendments at post-PCT U.S. national entry.

Referring to the pending U.S. Office Action, as acknowledged by Applicants in text to be found on page 4, lines 20 to 24 of the aforesaid PCT application, use of Eigenvector centrality (EVC) computation for network analysis is known from the early 1970's. We submit that this text defines the generic field of technology from which Applicants' invention is distinguished by its associated special features.

The Office Action refers in detail to four specific earlier documents:

Document	**Citation details from Examiner**
Girvan	"Community Structure in Social and Biological Networks", 11 June 2002
Borgatti	"Centrality and Network Flow" 17 February 2002
Cheng	page 790 "introduction"; page 793 "convergence"; page 796 "clustering as a natural process"; Figure 4
Hanneman	Page. 77 paragraph 3 specifying bridges; pp 40, paragraph 2 for links

We submit that document Cheng relates to a remote technical field to that of Applicants' presently claimed invention; the phrases "network" and "Eigenvector" do not even appear anywhere in document Cheng. Moreover, from Applicants' assessment, the document Cheng appears to relate to organising data by considering surfaces, and Figure 4 of the document

shows data points which do not in any manner represent any form of network; the caption to the Figure 4 refers to "shift variations", for example in an n-dimensional Euclidean space. As elucidated in the abstract of the Cheng document, the Cheng document is concerned with cluster analysis and not in any way network analysis. A cluster as elucidated in document Cheng can be a group of unconnected data points which have properties allowing the points to be organized or classified in various ways. In clear contradistinction to document Cheng, links of a network couple together its nodes in an *interactive* manner so that flow can occur between the nodes of the network, for example exchange of data or spreading of disease pathogens. Such flow does not occur in a cluster of isolated data points which can be shifted to form organized groups as elucidated in document Cheng. For reasons of this clear technical difference between "clusters" and "networks", together with the fact that nowhere in document Cheng is there mention of phrases "network" and "Eigenvector" and their associated concepts, we submit that document Cheng relates to remote technical art which a person ordinarily skilled in the art considering network technology would not be motivated to reference. Even if a person of ordinary skill were to refer to document Cheng, its teachings do not in any case contribute to devising Applicants' invention on account of data shifting having nothing in common with analysis of networks those links provide flow between network nodes.

In document Girvan, the phrase "clustering" has a different meaning to a manner in which this phrase is employed in document Cheng (see page 7821 RHS column of document Cheng). We submit that this difference results in a person of ordinary skill being unlikely to be motivated to combine teachings of these two documents together.

Documents Girvan, Borgatti, and Hanneman are more relevant in that they relate to networks. We submit that

these documents reiterate what Applicants have already acknowledged on page 4, lines 20 to 24 of Applicants' PCT application, namely that Eigenvector centrality (EVC) is known in the context of network analysis as a generic concept, but the additional special features recited in the present claims distinguish over this generic network analysis.

Referring to document Borgatti, page 56 thereof cites Bonacich et al.'s (1987, 1991) Eigenvector centrality, but also refers to a myriad of alternative analysis techniques such as "flow betweenness" proposed by Freeman in year 1979, as well as other analysis techniques attributed to Katz in year 1953, to Hubbell in year 1965, to Hoede in year 1978 and to Taylor in year 1969. As elucidated in the Abstract of document Borgatti: " ... Measures of centrality are then matched to the kinds of flows that they are appropriate for." It is further disclosed in this Abstract that "... It is shown that the off-the-shelf formulas or centrality measures are fully applicable only for the specific flow processes they are designed for, and that when they are applied to other flow processes they get *'wrong'* answers". It is clear from document Borgatti, namely a recent document published in year 2004, that there is no universal method of accurately analysing networks on account of various differences between the networks, for example in respect of differences in the nature of links between nodes, namely whether the links are *un-directed* or *directed* for example. Such distinguishing details are clearly elucidated on page 8, lines 19 to 23 of Applicants' PCT application which requires that the links coupling between nodes are *undirected* in the case of Applicants' invention. Earlier documents describing *directed* links are therefore likely to be less relevant in respect of Applicants' presently claimed invention, because these earlier documents would lead a person of ordinary skill to consider

other approaches in contradistinction to Eigenvector centrality analysis. Applicants amend independent claim 1 to clarify that the links are indeed "un-directed" links.

Referring next to document Girvan, in contradistinction to network analysis based on the claimed Eigenvector centrality as adopted by Applicants, document Girvan elucidates alternative techniques based upon on "betweenness" wherein focus is placed upon edges which are least central, namely "... rather than constructing by adding strongest edges to an initially empty vertex set, communities are constructed by progressively removing edges from an original graph (of a network)". Such an approach elucidated in document Girvan teaches a person of ordinary skill in network analysis directly away from Applicants' presently claimed invention using Eigenvector centrality. A further issue is that types of network as elucidated on page 7821 LHS column of document Girvan are those in which *directed* links are likely to arise, namely *directed* links which are not well suited for analysis based on Eigenvector centrality techniques as employed in Applicants' presently claimed invention. Nowhere in document Girvan are we able to find, for example, specific reference to network analysis using Eigenvector centrality.

Referring to document Hanneman, pages 40 and 44 thereof describe *undirected* and *directed* links in networks. Moreover, page 50 of document Hanneman introduces a concept of "geodesic distance" as being, for both *directed* and *undirected* data, "... the number of relations in the shortest walk from one actor to another". It is further stated that geodesic distance is widely used in network analysis. Moreover, document Hanneman elucidates benefits of analysis methods devised by Hubbell and Katz because these methods "... pay no attention to the *direction* of connections", see page 55 of document Hanneman. In chapter 6 of document Hanneman, starting on page 60,

concepts of "centrality" and "power" are discussed. Indeed, on page 62 of document Hanneman, there is reference to "eigenvector of geodesics as an approach which builds on the notion of closeness/distance". When discussing degree centrality on page 63, document Hanneman considers the UNINET network which is presented as an example, the network having both *undirected* and *directed* data flow between nodes susceptible to being analyzed by methods proposed by Linton Freeman; such a mixture of both *directed* and *undirected* network links would not be amenable to accurate analysis using Applicants' claimed invention based on Eigenvector centrality concepts. Moreover, document Hanneman proceeds on pages 65 and 66 thereof to elucidate closeness and betweenness centrality respectively, namely leading away from Applicants' claimed invention. Thereafter, document Hanneman proceeds on page 68 thereof to describe "Eigenvector of the geodesic distances" as an approach for finding central actors; such a concept is not new and was earlier disclosed by Bonacich et al., as acknowledged on page 4, lines 20 to 27 of Applicants' PCT application. Document Hanneman then on page 68 thereof asserts in relation to Eigenvector analysis: "The method to this [finding most central actors] is beyond the scope of the present text"; in other words, the document Hanneman does not enlighten a person of ordinary skill any more than Bonacich et al. in respect of advanced use of Eigenvector centrality analysis.

We respectfully submit to the Examiner that the cited documents do not teach significantly beyond Bonacich et al. such that a combination of their features, even if teachings of all these earlier documents were to be all mosaiced together, would not disclose the distinguishing features now claimed in Applicants' claim 1 presently on file at the US PTO, for example in respect of the claimed *steepest ascent*

link which is not specifically mentioned in any of the four citations relied upon by the Examiner. Disregarding the document Cheng which we submit is not at all relevant to the objective problem addressed by Applicants' invention, the documents Borgatti, Girvan and Hanneman provide a diverse spectrum of different methods of analysing networks which would lead a person of ordinary skill away from Eigenvector analysis on account of the inability of Eigenvector centrality analysis to cope accurately with *directed* links and its associated susceptibility to providing "wrong" answers.

In a general background of network analysis described in documents Borgatti, Girvan and Hanneman, we submit that Applicants' invention claimed in claim 1 presently on file provides considerable synergistic unexpected benefits, namely:

(a) classifying nodes of a network (the claimed step assigning a role to each node) into centre nodes, region member nodes, border nodes, bridging nodes and dangler nodes allows a structure of the network to be rapidly comprehended, for example within one or more software products executable on computing hardware;

(b) selectively defining nodes as being region member nodes when they have a *steepest ascent link* path in a topology map (of a network) terminating uniquely at a centre node of that region enables principle paths of flow within the network to be rapidly identified so that flow processes occurring in the network can be readily comprehended.

Applicants have found in devising the invention claimed in claim 1 presently on file that Eigenvector centrality (EVC) computation provides a suitable springboard on which to develop these two aforesaid features (a) and (b) above, even despite the documents Borgatti, Girvan and Hanneman all

pointing away from the useful of Eigenvector centrality analysis in preference to alternative techniques of analysis. We submit that a person of ordinary skill would not be able to devise the features claimed in Applicants' claimed invention without exercising inventive effort, especially when document Girvan on page 7823 LHS column teaches of a completely different preferred type of method based on removing edges of highest betweenness (step 2) without reference whatsoever to Eigenvector centrality computation.

We submit that Applicants' invention utilizes Eigenvector scores in a *new* way to define regions (namely clusters) in a network, with many associated applications. Applicants' invention is radically different from the cited earlier documents wherein:

(a) document Girvan uses "betweenness centrality";
(b) documents Borgatti and Hannemann discuss Eigenvector centrality but do not apply it; and
(c) document Cheng refers to clusters of data points but makes no reference whatsoever to any form of network structure.

Applicants' invention is, we submit, an exact opposite approach to that proposed by document Girvan which defines regions by removing the "most between" links, namely the links which define the "edges" of the regions. In contradistinction, Applicants' invention defines regions by finding the most central nodes ("centre nodes") and building outward from them ("grouping the nodes") to the "edges" of the regions. Applicants have studied many examples and found that the two approaches, namely Applicants' inventions and approaches elucidated in document Girvan, give quite different results.

2.0 Addressing specific points and issues raised in the pending Office Action

2.1 Office Action: page 2, paragraph 2 "specification"; page 2 paragraph 3

The Examiner has raised objections against the Abstract of Applicants' U.S. application.

Applicants therefore submit an amended Abstract herewith which Applicants trust will meet the Examiner's expectations; in an event that the Examiner is not completely satisfied with Applicants' amendments made to the Abstract, Applicants welcome further suggestions from the Examiner. Use of terms such as "means" and "said" have been replaced with phrases more typical of specification description rather than patent claims.

2.2 Claim objections: page 3, paragraph 1

Applicants are grateful to Examiner for having identified potential issues of lack of antecedent basis in respect of claims 2 and 4 presently on file. In order to address the Examiner's objections in this respect, Applicants herewith amend the claims to overcome the objections.

Amended claim 2 in the amended claim set has been amended so that earlier "... the number of different types of bonds ..." has been amended to "... a number of different types of bonds ...".

Amended claim 4 in the amended claim set is formulated as follows to address multiple antecedent problems:
A method as claimed in claim 1, wherein computing said link strength value further comprises measuring the amounts of traffic between each pairs of nodes for each different types of bond, dividing the amount of traffic in each type of bond with the a total traffic for that type of bond, and using the

a sum of the resulting fractions as a measure for link strength.

2.3 Claim objections: page 3, paragraph 2

The Examiner raises objections regarding claims 10 to 14 presently on file for not properly delimiting the subject matter of a previous claim on which they are dependent. Applicants submit that such lack of delimiting may be a consequence of a manner in which these claims 10 to 14 are constructed. Applicants' intention is "use of the method for a defined purpose" akin to a manner in which "use of a method of medical therapy for treating a particular type of illness or disease" can also be patented. In order to try to address the Examiner's objections, Applicants have therefore reformulated these claims 10 to 14 in the amended claim set appended herewith. Applicants trust that these amendments meet with the Examiner's approval.

2.4 Claim rejections: page 4, paragraphs 4 and 5

In the Office Action, the Examiner raises objection under 35 U.S.C. 112, second paragraph against claims 7 and 8 presently on file with regard to the limitation "non-self-retracing link path". The Examiner's objection relates to this limitation lacking any form of definition or explanation in Applicants' application. Applicants submit that "non-self-retracing link path" is a term of art which is well known to a person skilled in the art of network analysis. The phrase "non-self-retracing link path" conveys a concept that a link may not be considered multiple times when determining a degree of connectively that a given node has within a network. Moreover, this phrase appears earlier on page 16 lines 32 to 33 of Applicants' PCT application.

Nevertheless, in view of claims 7 and 8 being dependent

on claim 1 and therefore not defining the overall scope of the claimed invention, Applicants have deleted these phrases in the amended claim set herewith attached to try to address the Examiner's objections. Applicants submit that such an approach creates more certainty than retaining the limitation on a basis that the phrase "non-self-retracing link path" is a term of art. Applicants submit that trying to construe the phrase "non-self-retracing" by way of remote art relating to refreshing screen pixels or oscilloscope signals is likely to result in the phrase being inappropriately interpreted; Applicants' application makes no reference whatsoever to such remote art.

2.5 Claim rejections: 35 USC §103, page 5, paragraphs 6 and 7

Claims 1-15 were rejected as being obvious in relation to earlier documents cited by the Examiner. We respectfully submit to the Examiner, after having studied the cited documents in close detail, that Applicants' claimed invention is far from obvious from these earlier citations which clearly teach towards alternative solutions not claimed by Applicants. Applicants kindly refer the Examiner is section 1.0 "Summary" above which provides an overview explaining why Applicants' invention is not obvious from these earlier citations which merely identify general state of art as already acknowledged in Applicants' application. Even a combination of teachings in all the citations identified in the Office Action does not result in all the features recited in Applicants' amended claim 1 herewith attached being provided. Applicants submit that all these citations are concerned with networks where links are directional, thereby rendering them unsuitable for Eigenvector centrality analysis.

On page 5 of the pending Office Action, the Examiner refers to aforementioned documents Girvan and Cheng.

We kindly refer the Examiner to page 8 line 21 to 22 of

Applicants' PCT application which defines for Applicants' claimed invention that there is a prerequisite that the links of the network are *undirected.* Thus, when construing the term "link" in amended claim 1, the link would be understood to be an *undirected* link. Accordingly, Applicants have amended claim 1 to expressly state that the links are un-directed.

The Examiner refers to the abstract of document Girvan, wherein Girvan discloses "a method of detecting communities using centrality indices to find community borders". The Girvan method employs hierarchical clustering based on weights W of links between nodes; however, as defined on page 7822 RHS column under rubric "Edge Betweenness and Community Structure", the Girvan method focuses on edges that are least central, namely the edges that are most "between" communities. Indeed, Girvan proposes a method on page 7823 LHS column top points 1. to 4. which represents a method quite remote from that described in Applicants' application; Girvan proposes an iterative process of removing edges which is an approach which Applicants' invention simply does not employ. Girvan progresses from "strongest weight and progresses to weakest" as disclosed on page 7821 RHS column (bottom). Moreover, Girvan discloses network situations wherein nodes are mutually coupled together by *directed* (one-way) links and are not restricted to *un-directed* links as is the case of Applicants' claimed invention based on Eigenvector centrality analysis.

In Applicants' view, the Examiner has correctly identified that document Girvan is not limited to a situation of *un-directed* links, and therefore Eigenvector centrality analysis would be quite inappropriate for network situations presented in document Girvan. Document Girvan thus teaches in a direction of methods capable of analysing networks with directed links, namely teaching away from Eigenvector centrality analysis. Thus, a person commencing by studying

document Girvan would not be motivated to refer to document Borgatti on account of document Girvan teaching away from the use of Eigenvector centrality analysis in preference to alternative methods.

Document Borgatti is based upon networks wherein centrality is determined by data flows. In its abstract, document Borgatti acknowledges that off-the-shelf formulas for centrality measures are only fully applicable for specific flow processes, for example for directed flow, and are susceptible to giving wrong answers for many types of real networks. On page 56 of document Borgatti, Borgatti acknowledges Eigenvector centrality measures as well as other alternative methods by Katz, Hubbell, Hoede, and Taylor. When discussing typology of flow processes, Borgatti describes many real scenarios such as:

trading in used goods;

trading in money, gossip and e-mails;

attitudes;

infection;

packages

which are by no means representative of purely *un-directed* links. As a result, document Borgatti teaches away from use of Eigenvector centrality towards "closeness centrality" and "betweenness centrality", for example as emphasized in the "Discussion" section on page 70 of document Borgatti.

Moreover, document Borgatti states at the bottom of page 70 thereof that the study has only considered a situation of network flows which have a source and a target, namely teaching away from *un-directed* flows as required for Applicants' claimed invention (by construing the interpretation of "links" in respect of Applicants' description for Applicants' amended claim 1).

As elucidated in the foregoing, document Girvan teaches away from Eigenvector centrality analysis as a tool and preferentially towards using centrality indices for finding communities, whereas Borgatti teaches away from Eigenvector centrality analysis methods towards alternative methods based upon "betweenness" and "closeness". We submit therefore that a person of ordinary skill in network technology would not be inclined to combine the teachings of documents Girvan and Borgatti to arrive at Applicants' claimed invention.

The Examiner also cites document Cheng against Applicants' claim 1 present on file. We submit that document Cheng is concerned with manipulating data points in a neighbourhood for clustering purposes, for example for data searching purposes, for example for data searching purposes. The word "network" does not even occur once in the text of document Cheng, nor does the concept of Eigenvector centrality arise in the document. Cheng discloses a technique based upon Hough transforms and clustering. We submit, for example, that Figure 4 of document Cheng does not represent any form of network but rather shift trajectories of data points in abstract (theoretical) n-dimensional Euclidean space.

Document Hanneman is a lengthy document which Applicants have now studied in minute detail. On page 77, paragraph 3, of document Hanneman, there is reference to "bridges" between groups of nodes and corresponds to merely describing a network, and not elucidating any particular form of method. On page 77 of document Hanneman as cited by the Examiner, the phrase "Eigenvector centrality" is nowhere to be found. We have studied in detail substantially the complete document Hanneman and find reference to Eigenvector centrality on, for example, page 62. There is reference to "Eigenvectors of geodesics" as an approach, namely a situation acknowledged on page 4 lines 22 to 24 of Applicants' PCT application as being part of the prior art attributed Bonacich et al. Document

Hanneman seems more concerned generally with alternative approaches to centrality determination, for example see the diagram on page 63 which has both *directed* and *un-directed* links between nodes and pertains to degree centrality, not Eigenvector centrality.

Page 68 of document Hanneman mentions Eigenvectors of geodesic distances and asserts that it is beyond (i.e., too complex) the scope of consideration of the document Hanneman. On page 70, Hanneman concludes that great caution should be exercised in interpreting results from the Eigenvector centrality analysis because a dominant pattern thereby determined is not doing a very complete job in describing data. This leads to alternative approaches of network analysis such as flow centralities as being a preferred approach.

We submit to the Examiner that all three citations, namely Borgatti/Girvan/Hanneman, would lead a person ordinarily skilled in the art of network analysis away from using Eigenvector centrality to alternative approaches, with a result that the person of ordinary skill would not appreciate unexpected benefits resulting from *steepest ascent slope* aspects of Eigenvector analysis as claimed by Applicants.

2.6 Claim rejections: 35 USC §103, page 8, paragraphs 6 and 7 (cont.)

On page 8 of the Office Action, the Examiner objects to Applicants' presently pending claim 2 on a basis of a combination of documents Girvan/Borgatti/Cheng/Hanneman, especially with reference to Borgatti, page 56, "Topology of flow processes" and also page 59 "Relation to centrality measures".

We respectfully submit to the Examiner that document Borgatti on page 59 is of a general nature and not limited to

Eigenvector centrality analysis. It therefore encompasses numerous alternative techniques as elucidated in the foregoing. Thus, referring to document Borgatti, the Examiner refers to "Topology of flow processes" pages 56 and 57, but the introduction of page 56 refers to many alternative methods, for example methods attributed to Katz, Hubbell, Hoede, Taylor, Freemann ("closeness and betweenness") which would lead a person of ordinary skill specifically towards to Eigenvector analysis. Indeed, flow processes can be used to determine link strength in any one of the methods elucidated in document Borgatti of which Eigenvector centrality is but one example amongst many alternatives, but these do not necessarily imply that the number of different types of bonds between pairs of nodes are to be used as a measure of link strength. Nor do any of the citations disclose consideration of *steepest ascent path* link which is an essential feature recited in claim 1 on which claim 2 is dependent, a combination of teachings in all of documents Borgatti/Cheng/Hanneman/Girvan would not disclose the subject matter defined by claim 2 in combination with claim 1. In view of these earlier documents teaching away for Eigenvector centrality methods of network analysis in preference to alternative approaches, we submit that a person of ordinary skill in the art of network analysis would not be inclined to combine the teachings of these documents in respect of Eigenvector centrality and therefore would not device the subject matter defined by Applicants' claim 2.

None of the documents cited by the Examiner whatsoever teach of any benefit from identifying a *steepest ascent link*, especially in combination with Eigenvector centrality computation. Some of the documents cited by the Examiner refer to Eigenvector centrality analysis only to elucidate its shortcomings, and then propose potentially even better alternative approaches. A person ordinarily skilled in the

art of network analysis would, we submit, be guided away from Eigenvector centrality techniques to perceived better approaches which, for example, can handle networks with *directed* links and thereby provide better analysis results for real networks comprising a mixture of *directed* and *un-directed* links between nodes.

On pages 8 and 9 of the pending Office Action, the Examiner is of an opinion that documents Girvan/Borgatti/Cheng/Hanneman teach computing link strength by measuring traffic between any two nodes and using the measure of traffic as a measure for link strength. In particular, the Examine refers to page 60, last paragraph in document Borgatti. We submit that the paragraph identified by the Examiner expounds approaches proposed by Freeman; there is absolutely no reference to Eigenvector centrality analysis techniques. We submit that a person ordinarily skilled in the art reading this paragraph would be inclined to measure of traffic as an indication of link strength in conjunction with employing alternative analysis techniques, thereby leading directly away from the invention claimed in Applicants' claim 3.

Referring to page 9 in the Office Action, the Examiner asserts that a combination of teachings in documents Girvan/Borgatti/Cheng/Hanneman would enable a person of ordinary skill to organizing link strengths into a matrix, thereby according to the Examiner allegedly rendering Applicants' claim 5 obvious. Such an approach is however already acknowledged in the "Background of the Invention" section of Applicants' PCT patent specification. By asserting lack of inventive step for subject matter which Applicants have already acknowledged is known technology, the Examiner is asserting that a combination of these four documents merely divulges what is known and forms part of the prior art. There is no reference in any of these documents

regarding the *steepest ascent link*, recited in claim 1 on which claim 5 is dependent and some of documents, for example document Girvan, expressly recommend alternative computational techniques to Eigenvector centrality analysis as elucidated in the foregoing. We submit therefore that claim 5 presently on file relates to inventive subject matter.

Referring to page 9 in the Office Action, the Examiner alleges that Applicants' claim 6 presently on file claims obvious subject matter in respect of a combination of teachings in documents Girvan/Borgatti/Cheng/Hanneman. In particular, the Examiner refers to page 7825 of document Girvan, in particular to Figure 6 which discloses a network of nodes connected together via links, with certain nodes being bridging nodes and dangler nodes. The network of Figure 6 is nothing new and generally similar types of network topography have been in existence before and also represented in graphical form. However, it is not solely such features of graphical presentation that distinguish the subject matter claimed in Applicants' claim 6 from the cited documents. As elucidated in the foregoing, a combination of teachings does not disclose the subject matter Applicants' claim 1, so it is not surprising that a combination of these citations also does not disclose the subject matter of Applicants' claim 6; Applicants' claim 6 is dependent on Applicants' claim 1. Similarly arguments are respectfully also submitted in response to the Examiner's objections to Applicants' claim 7 at the bottom of page 9 of the Office Action. Document Girvan does not even refer to Eigenvector centrality analysis techniques so its Figure 6 teaches nothing more than any other document presenting a depiction of a network; moreover, document Hanneman on page 77 paragraph 3 and page 90 paragraph 2 does not specifically refer to Eigenvector centrality analysis techniques and would therefore, as far as a person ordinarily skilled in the art of network analysis is

concerned, equally pertain to alternative analysis techniques, for example as proposed by Taylor and Katz. Applicants submit similar arguments in response to the Examiner's objections on page 10 of the Office Action in respect of Applicants' claim 8; document Girvan is silent regarding Eigenvector centrality analysis and document Hanneman is not specifically referring to Eigenvector centrality analysis on pages 40, 43, and 128 to 129.

The Examiner's objections against Applicants' claims 10 to 14 have been previous addressed by amendment by submitting herewith an amended claim set to replace Applicants' presently pending claim set to which the aforesaid Office Action pertains.

Referring to page 11 in the Office Action, the Examiner has kindly acknowledged that documents Borgatti/Girvan/Cheng/Hanneman do not specify normalizing each communication variation and summing the resulting fractions and using it to calculate strength. Clearly, therefore, Applicants' claim 4 recites features which are distinguished from the aforesaid citation documents. Moreover, Applicants' claim 4 is dependent on Applicants' claim 1 which we submit claims novel and non-obvious subject matter for reasons elucidated in the foregoing.

Conclusion

Applicants assert that the claims, as amended, are patentable over the cited documents. Applicants hereby request reconsideration of the application in view of the amendments and remarks made herein. A Notice of Allowance is earnestly solicited.

CERTIFICATE OF TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) on the date shown below.

Signed: Sally Azevedo
Typed Name: Sally Azevedo

Date: July 31, 2008

Respectfully submitted,

Thomas Schneck

Thomas Schneck
Reg. No. 24,518

Schneck & Schneck
P.O. Box 2-E
San Jose, CA 95109-0005
(408) 297-9733